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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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JUL 14 1997

In the Matter of )  
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Amendment of Section 90.266 of the ) RM-9104  
Commission's Rules to Adopt Rules )  
Governing the Secondary Use of )  
Radio Channels in the 2-25 MHz )  
Radio Frequency Band )

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

To: The Chief, Commercial Wireless Division  
Wireless Telecommunications Bureau

**COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED  
ON PETITION FOR RULEMAKING OF FLASH COMM, INC.**

The American Radio Relay League, Incorporated (the League), the national association of amateur radio operators in the United States, by counsel, and upon the Commission's invitation to comment on a May 12, 1997 request by Flash Comm, Inc. (Flash Comm) for rule making, hereby respectfully submits its comments thereon. The Commission's Public Notice, captioned only with the petition's file number, issued June 13, 1997, requested that comments be submitted to the Commercial Wireless Division within 30 days of the date of the Public Notice. In response to the petition, the League states as follows:

1. This is the third filing by Flash Comm on the same subject. In September of 1995, Flash Comm filed a petition for rule making seeking to allow a High-Frequency (HF) "messaging and location tracking service" on an unlicensed, Part 15 basis throughout the HF bands from 3 to 30 MHz. The petition was ill-fated, for a number of good reasons. It proposed 10-watt transmitters, without type

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acceptance or station identification, but with a "recordkeeping" requirement. The Office of Engineering and Technology did not accord the petition a file number. On February 9, 1996, Flash Comm tried another procedural route to obtain similar relief; it sought a waiver of a series of Part 90 rule sections in order to utilize an HF digital burst technology on a nationwide basis, to provide third party service to Part 90 eligibles in the United States.<sup>1</sup> It sought to use a "stealth" waveform, without station identification or equipment type acceptance, but with a "recordkeeping" requirement relative to interference complaints. The most significant waiver, however, involved the request for a blanket authorization for *unlimited* numbers of mobile units, to utilize Part 90 HF bands anywhere in the United States, with 10 watts of RF from the transmitter, allegedly at 1 watt ERP on bands between 3.1 and 29.8 MHz.

2. The League's interest in those two prior proceedings, and in the present rulemaking petition, is due to the extensive use made by radio amateurs of the HF allocations at 3.5-4.0 MHz, 7.0-7.3 MHz, 10.100-10.150 MHz, 14.000-14.350 MHz, 18.068-18.168 MHz, 21.000-21.450 MHz, 24.890-24.990 MHz, and 28.000-29.700 MHz. It is noted that those bands, none of which are allocated domestically for private or commercial fixed or mobile wireless use under Part 90, were excluded from the Flash Comm waiver request and from the

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<sup>1</sup> That waiver request has apparently been granted, as the Commission's Daily Digest of July 11, 1997 so indicates. The text of any explanatory document, however, was not actually released on that date. The propriety of the Commission's grant of that waiver request prior to action on this Petition is questionable.

instant petition. However, as previously stated in response to the Flash Comm waiver request, the amateur allocations at HF are not static. In March of 1995, NTIA released its Special Publication 94-31, *U.S. National Spectrum Requirements: Projections and Trends*. That document, following a comprehensive study of the spectrum requirements of all radio services, discussed the *near-term* spectrum needs of the Amateur and Amateur-Satellite Services at HF (*Id.*, at 163-169). The study concluded, in part, as follows:

In general, we believe that current amateur and amateur-satellite allocations should be retained. Amateur requests for international reallocations would be appropriate issues for FCC private-sector advisory committees addressing U.S. preparations for future World Radiocommunications Conferences (WRC's). Additional allocations at 160-190 kHz, and near 5 MHz will require technical studies to determine the availability of these bands to support amateur use. The expansion and upgrading of amateur allocations in the 10 MHz, 14 MHz, 18 MHz and 24 MHz bands are acceptable, but will depend on future decrease of requirements for the aeronautical mobile...or the fixed services internationally. The alignment of the amateur 3.5 and 7 MHz bands worldwide will require the inclusion of these issues in U.S. preparations for future WRCs.

(*Id.*, at 168-169).

3. A footnote to the foregoing notes that alignment of the 7 MHz band is consistent with proposals made by the United States at WARC-92. In fact, that issue is a candidate for the agenda of WRC-99, and the United States position is favorable to such expansion. The specifics of the changes to HF allocations sought by the Amateur and Amateur-Satellite Services and endorsed by NTIA include the following:

|              |  |
|--------------|--|
| 3.5-4.0 MHz: | Retained, with common, worldwide 300 kHz exclusive component added |
|--------------|--|

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|--------------------|--|
| 5 MHz:             | Creation of a 50 kHz segment                           |
| 6.900-7.300 MHz:   | 300 kHz aligned worldwide                              |
| 10.100-10.350 MHz: | Retention, expansion and upgrade to primary worldwide. |
| 14.000-14.400 MHz: | expansion by 50 kHz worldwide                          |
| 18.068-18.318 MHz: | expansion; exclusive worldwide allocation              |
| 24.740-24.990 MHz: | expansion; exclusive worldwide allocation              |
| 28.0-30.0 MHz:     | expand present allocation                              |

The League objects most strenuously to the use by Flash Comm or Part 90 eligibles using this new type system on any of the foregoing bands, which are subject to consideration in the near term for allocation to the Amateur and Amateur-Satellite Services, in certain instances on an exclusive basis. The Commission must not authorize unlicensed, ubiquitous devices in existing or planned amateur allocations at HF, and it must provide at least the 15 kHz buffer proposed in the petition between any frequencies used by such devices and the existing or planned Amateur allocations. If that is done, the League would have little standing to object to the proposed rule changes. There is, however, no demonstrated compatibility between the Flash Comm use, or the proposed Part 90 operation for mobile HF operation, and current or future projected amateur HF operation, and any final Commission action, either on the waiver application of Flash Comm or the instant petition must exclude current and planned future amateur allocations between 3 and 30 MHz as noted hereinabove.

4. The Flash Comm petition, however, is an obvious afterthought on the part of Flash Comm. It was admittedly prepared

and filed solely at the behest of the Wireless Telecommunications Bureau as part of a "deal" for the grant of the Flash Comm waiver request.<sup>2</sup> The petition is facially woefully deficient in terms of demonstration of compatibility with incumbent users of the HF bands, and contains only conclusory statements on that subject. The League objected to the Flash Comm waiver request, in part, because of the proposed use of an "interference-minimizing 'stealth' digital waveform developed originally for military applications". The emission designator 2K80G1D was proposed in the waiver request and is proposed as one of several emission designators in the petition. The absence of any technical description other than 8-PSK, and the absence of any test results whatsoever leaves the existing users of the HF bands to question whether the waveform is truly "interference-minimizing" or simply 8-PSK as stated, thus rendering the "interference minimization" claim nothing but more of the rhetorical salesmanship that plagues the Flash Comm waiver request and this petition. The record is incomplete and the petition is defective, as was the waiver request.

5. There are other technical problems with this petition, which the League genuinely hopes that the Wireless Telecommunications Bureau will not continue to overlook. The use of short-burst transmissions may or may not cause harmful interference

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<sup>2</sup> Flash Comm states at Footnote 1 of its Petition that "(t)his petition for rulemaking is being filed at the request of the Wireless Telecommunications Bureau ("WTB") staff to consider codifying similar conditions in its rules for other applicants. The WTB staff have also indicated that Flash Comm's application will be granted contemporaneously with public notice of this filing."

to other users. Existing systems with repeat request capability, such as digital ARQ (automatic repeat request) systems or two-way SSB voice circuits can recover from burst interference. However, systems without this capability, such as narrow-band, direct printing telegraphy or analog facsimile without error control cannot. This alone would dictate that the Flash Comm application waiver requests are premature. Flash Comm is essentially requesting a permanent waiver of numerous rules without the benefit of test results from an experimental license period, or other proof of interference potential. Permanent waivers of this nature necessarily should be subject to a higher standard of demonstrated interference potential prior to action on a bare application.

6. Most indicative of the need for competent technical evaluation of this proposal is the fact that "low transmitting power" in the HF bands is not in any sense a guaranty of non-interference to other users. Numerous amateur stations use one watt ERP or less (known as QRP operation) to communicate throughout the world on HF bands. One watt ERP, with antenna "directivity" equivalent to that of a dipole antenna (as proposed in the petition), with unlimited unlicensed transmitters in the HF bands has ample potential of simply wiping out communications throughout the world on the victim frequencies. Simply stated, if a signal can be received in these bands, it can interfere with another signal of equal or lesser amplitude. Whether these "low-power" transmissions will interfere with another user is not categorical; rather, it depends on the relative signal strengths of the desired vs.

undesired signals (d/u ratios). There is no demonstration in either the Flash Comm waiver request, or this petition, of even claimed typical d/u ratios.

7. Listen-before-transmit, and six-site "clear channel assessment" master control monitoring before transmitting, can be partially effective technique for avoiding interference to another user. However, the use of the channel is under any circumstances denied to other users while the burst station is transmitting. Furthermore, the six-site monitoring station capability would under the petition only be required when the system is "fully operational". That provision is a "weasel", and allows the Part 90 licensee to avoid the requirement for extensive periods. The sites would have to be operational before any portion of the system is operational, or it is useless as an interference technique.

8. Furthermore, there is nothing in the petition which would insure that the burst transmission signal will be at the noise floor of the band. Assuming that the transmission parameters stated in the proposed Section 90.266 are used, that standard would depend on the propagation path loss from the burst station to the victim receiver, either via skywave in the case of a distant receiver or via ground wave in the case of a nearby receiver.

9. The League reiterates that Flash Comm has conformed neither its own proposed system or its petition to item 1.5 of the agenda for the 1997 World Radiocommunication Conference, and WRC-95 Recommendation 720, "The Flexible and Efficient use of the Radio Spectrum by Fixed and Some Mobile Services in the MF and HF Bands

Using Block Allocations for Adaptive Systems." In the preliminary negotiations underway within ITU-R, it is assumed that only 10 percent of the MF and HF fixed and mobile bands would be identified initially for adaptive use. The "adaptive HF" technique being considered by ITU appears to have goals similar to those of Flash Comm, but entails a more conservative approach in terms of minimizing interference to existing users, both domestically and worldwide. The entire proposal of Flash Comm must be evaluated in terms of potential interference worldwide, and the Commission cannot proceed with this petition without international coordination, given the aggregate interference potential to fixed and other services internationally.

10. In conclusion, the League insists that, should the Commission choose to proceed with a Notice of Proposed Rule Making, notwithstanding the above-noted deficiencies in the afterthought petition filed by Flash Comm, it must assure the exclusion of those segments of the HF bands listed hereinabove, which are under active consideration for amateur use in the United States and worldwide. The League suggests that an experimental license period, with empirical test results evaluated and actual interference potential to incumbent users determined, would be a proper precondition to substantive consideration of the petition.

Therefore, the foregoing considered, the American Radio Relay League, Incorporated respectfully respects that any action taken on



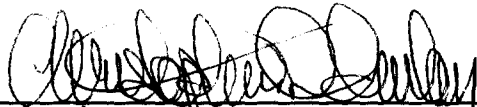
this petition be in accordance with these comments, and otherwise,  
that it be denied.

Respectfully submitted,

**THE AMERICAN RADIO RELAY  
LEAGUE, INCORPORATED**

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By

  
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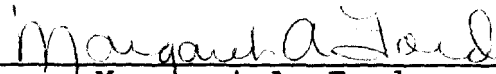
CERTIFICATE OF SERVICE

I, Margaret A. Ford, Office Manager of the law firm of Booth, Freret, Imlay & Tepper, P.C., do hereby certify that copies of the foregoing COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED ON PETITION FOR RULEMAKING OF FLASH COMM, INC., were mailed this 14th day of July, 1997, via U. S. Mail, postage prepaid, first class, to the offices of the following:

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